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| Form PTO-1449 (REV. 8-83) | | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | | ATTY. DOCKET NO. 23438.00041 | | APPLICATION NO. 10/620,318 | |
| INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) | | | | APPLICANT Paul V. Cooper | | | |
| | | | | FILING DATE July 14, 2003 | | GROUP 1742 | |
| | | | | COUPLINGS FOR MOLTEN METAL DEVICES | | | |

| U. S. PATENT DOCUMENTS | | | | | | | |
|------------------------|-----|--------------------|------------|-------------|---------|---------------|----------------------------------|
| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
| SK | | 1,100,475 | 06-16-14 | Franckaerts | | | |
| | | 1,331,997 | 02-24-1920 | Neal | | | |
| | | 1,454,967 | 05-15-1923 | Gill | | | |
| | | 1,518,501 | 12-09-1924 | Gill | | | |
| | | 1,522,765 | 01-13-1925 | Wilke | | | |
| | | 1,526,851 | 02-17-1925 | Hall | | | |
| | | 1,669,668 | 05-15-1928 | Marshall | | | |
| | SK | | 1,673,594 | 06-12-1928 | Schmidt | | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------|-----|--------------------|------------|-------------|-------|---------------|-------------|-----------------|
| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
| | | | | | | | YES | NO |
| SK | | 0665378A1 | 02-08-95 | EP | | | | Yes Abstract |
| | | 1,185,314 | 03-25-1970 | UK | | | | |
| | | 1,800,446 | 12-11-1969 | DE | | | | Yes Abstract |
| | | GB 2,217,784 A | 03-20-1989 | UK | | | | |
| SK | | 392,268 | 09-1965 | Switzerland | | | | Yes Abstract |

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
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| EXAMINER S. Kastner | DATE CONSIDERED 3/06 |
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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SK | | 1,717,969 | 06-18-1929 | Goodner | | | |
| | | 1,896,201 | 02-07-1933 | Sternmer-Rainer | | | |
| | | 2,038,221 | 04-21-1936 | Kagi | | | |
| | | 209,219 | 10-22-1878 | Bookwalter | | | |
| | | 2,280,979 | 04-28-1942 | Rocke | | | |
| | | 2,290,961 | 07-28-1942 | Heuer | | | |
| | | 2,488,447 | 11-15-1949 | Tangen et al | | | |
| SK | | 251,104 | 12-20-1881 | Finch | | | |

FOREIGN PATENT DOCUMENTS

| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
|----|-----|--------------------|------------|--------------|-------|---------------|-------------|----------|
| | | | | | | | YES | NO |
| SK | | 416,401 | 06-1974 | Soviet Union | | | Yes | Abstract |
| | | 58-48796 | 03-1983 | Japan | | | Yes | Abstract |
| | | 63-104773 | 5-1998 | Japan | | | Yes | Abstract |
| | | 683,469 | 03-31-1964 | Canada | | | | |
| SK | | 773,312 | 10-1980 | Soviet Union | | | Yes | Abstract |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SK | | 2,515,478 | 07-18-1950 | Tooley et al. | | | |
| | | 2,528,210 | 10-31-1950 | Stewart | | | |
| | | 2,566,892 | 09-04-1951 | Jacobs | | | |
| | | 2,677,609 | 05-04-1954 | Moore et al. | | | |
| | | 2,698,583 | 01-04-1955 | House et al. | | | |
| | | 2,787,873 | 04-09-1957 | Hadley | | | |
| | | 2,808,782 | 10-08-1957 | Thompson et al. | | | |
| SK | | 2,821,472 | 01-28-1958 | Peterson et al. | | | |

FOREIGN PATENT DOCUMENTS

| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
|----|-----|--------------------|------------|---------|-------|---------------|-------------|-----------------|
| | | | | | | | YES | NO |
| SK | | 90,756 | 01-1958 | Norway | | | | Yes Abstract |
| SK | | 942,648 | 11-27-1963 | U.K. | | | | |
| SK | | WO 98/25031 | 06-11-1998 | WO | | | | |
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SK | | 2,832,292 | 04-29-1958 | Edwards | | | |
| | | 2,865,618 | 12-23-1958 | Abell | | | |
| | | 2,901,677 | 08-25-1959 | Chessman et al. | | | |
| | | 2,948,524 | 08-09-1960 | Sweeney et al. | | | |
| | | 2,978,885 | 04-11-1961 | Davison | | | |
| | | 2,984,524 | 05-16-1961 | Franzen | | | |
| | | 2,987,885 | 06-13-1961 | Hodge | | | |
| SK | | 3,010,402 | 11-28-1961 | King | | | |

FOREIGN PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|-------------------|-------|---------------|----------------------------------|
| SK | | 3,048,384 | 08-07-1962 | Sweeney et al. | | | |
| | | 3,070,393 | 12-25-1962 | Silverberg et al. | | | |
| | | 3,092,030 | 06-04-1963 | Wunder | | | |
| | | 3,227,547 | 01-04-1966 | Szekely | | | |
| | | 3,244,109 | 04-05-1966 | Barske | | | |
| | | 3,251,676 | 05-17-1966 | Johnson | | | |
| | | 3,255,702 | 06-14-1966 | Gehrm | | | |
| SK | | 3,272,619 | 09-13-1966 | Sweeney et al. | | | |

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SIC | | 3,289,473 | 12-06-1966 | Louda | | | |
| | | 3,291,473 | 12-13-1966 | Sweeney et al. | | | |
| | | 3,400,923 | 09-10-1968 | Howie et al. | | | |
| | | 3,417,929 | 12-24-1968 | Secrest et al. | | | |
| | | 3,459,133 | 08-05-1969 | Scheffler | | | |
| | | 3,459,346 | 08-05-1969 | Tinnes | | | |
| | | 3,487,805 | 01-06-1970 | Satterthwaite | | | |
| SIC | | 3,512,762 | 05-19-1970 | Umbricht | | | |

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| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE | |
| SK | | 3,512,788 | 05-19-1970 | Kilbane | | | | |
| | | 3,575,525 | 04-20-1971 | Fox et al. | | | | |
| | | 3,618,917 | 11-09-1971 | Fredrikson | | | | |
| | | 364,804 | 06-14-1887 | Cole | | | | |
| | | 3,650,730 | 03-21-1972 | Derham et al. | | | | |
| | | 3,689,048 | 09-05-1972 | Foulard, et al. | | | | |
| | | 3,715,112 | 02-06-1973 | Carbonnel | | | | |
| SK | | 3,743,500 | 07-03-1973 | Foulard et al. | | | | |
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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SC | | 3,743,263 | 07-03-1973 | Szekely | | | |
| | | 3,753,690 | 08-21-1973 | Emley et al. | | | |
| | | 3,759,635 | 09-18-1973 | Carter et al. | | | |
| | | 3,767,382 | 10-23-1973 | Bruno et al. | | | |
| | | 3,776,660 | 12-04-1973 | Anderson et al. | | | |
| | | 3,785,632 | 01-15-1974 | Kraemer, et al. | | | |
| | | 3,814,400 | 06-04-1974 | Seki | | | |
| SC | | 3,824,042 | 07-16-1974 | Barnes et al. | | | |

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|---------------------|-----|--------------------|------------|------------------|-------|---------------|----------------------------------|
| SK | | 3,836,280 | 09-17-1974 | Koch | | | |
| | | 3,839,019 | 10-01-1974 | Bruno et al. | | | |
| | | 3,871,872 | 03-18-1975 | Downing et al. | | | |
| | | 3,873,305 | 03-25-1975 | Claxton et al. | | | |
| | | 3,886,992 | 06-03-1975 | Maas et al. | | | |
| | | 3,915,694 | 10-28-1975 | Ando | | | |
| | | 3,954,134 | 05-04-1976 | Maas et al. | | | |
| SE | | 3,961,778 | 06-08-1976 | Carbonnel et al. | | | |

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| SK | | 3,966,456 | 06-29-1976 | Ellenbaum et al. | | | |
| | | 3,972,709 | 08-03-1976 | Chin et al. | | | |
| | | 3,984,234 | 10-05-1976 | Claxton et al. | | | |
| | | 3,985,000 | 10-12-1976 | Hartz | | | |
| | | 3,997,336 | 12-14-1976 | van Linden et al. | | | |
| | | 4,003,560 | 01-18-1977 | Carbonnel | | | |
| | | 4,018,598 | 04-19-1977 | Markus | | | |
| SK | | 4,052,199 | 10-04-1977 | Mangalick | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | | |
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|---------------------|-----|--------------------|------------|-------------------|-------|---------------|----------------------------------|
| SK | | 4,055,390 | 10-25-1977 | Young | | | |
| | | 4,068,965 | 01-17-1978 | Lichti | | | |
| | | 4,091,970 | 05-30-1978 | Kimiyama et al. | | | |
| | | 4,119,141 | 10-10-1978 | Thut et al. | | | |
| | | 4,126,360 | 11-21-1978 | Miller et al. | | | |
| | | 4,128,415 | 12-05-1978 | van Linden et al. | | | |
| | | 4,144,562 | 03-13-1979 | Cooper | | | |
| SK | | 4,169,584 | 10-02-1979 | Mangalick | | | |

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| SK | | 4,192,011 | 03-04-1980 | Cooper et al. | | | |
| | | 4,213,091 | 07-15-1980 | Cooper | | | |
| | | 4,213,176 | 07-15-1980 | Cooper | | | |
| | | 4,219,882 | 08-26-1980 | Cooper et al. | | | |
| | | 4,244,423 | 01-13-1981 | Thut et al. | | | |
| | | 4,286,985 | 09-01-1981 | van Linden et al. | | | |
| | | 4,322,245 | 03-30-1982 | Claxton | | | |
| SK | | 4,347,041 | 08-31-1982 | Cooper | | | |

FOREIGN PATENT DOCUMENTS

| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
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| EXAMINER S. Kastler | DATE CONSIDERED 3/06 |
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| Form PTO-1449 (REV. 8-83) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) | ATTY. DOCKET NO. 23438.00041 | APPLICATION NO. 10/620,318 |
| | APPLICANT Paul V. Cooper | |
| | FILING DATE July 14, 2003 | GROUP 1742 |
| | COUPLINGS FOR MOLTEN METAL DEVICES | |

U. S. PATENT DOCUMENTS

| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 4,351,514 | 09-28-1982 | Koch | | | |
| | | 4,360,314 | 11-23-1982 | Pennell | | | |
| | | 4,370,096 | 01-25-1983 | Church | | | |
| | | 4,372,541 | 02-08-1983 | Bocourt et al. | | | |
| | | 4,375,937 | 03-08-1983 | Cooper | | | |
| | | 4,392,888 | 07-12-1983 | Eckert et al. | | | |
| | | 4,410,299 | 10-18-1983 | Shimoyama | | | |
| SK | | 4,456,424 | 06-26-1984 | Araoka | | | |

FOREIGN PATENT DOCUMENTS

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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SIC | | 4,456,974 | 06-26-1984 | Cooper | | | |
| | | 4,470,846 | 09-11-1984 | Dube | | | |
| | | 4,489,475 | 12-25-1984 | Struttman | | | |
| | | 4,504,392 | 03-12-1985 | Groteke | | | |
| | | 4,537,624 | 08-27-1985 | Tenhover et al. | | | |
| | | 4,537,625 | 08-27-1985 | Tenhover et al. | | | |
| | | 4,556,419 | 12-03-1985 | Otsuka et al. | | | |
| SIC | | 4,557,766 | 12-10-1985 | Tenhover et al. | | | |

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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SK | | 4,586,845 | 05-06-1986 | Morris | | | |
| | | 4,593,597 | 06-10-1986 | Albrecht et al. | | | |
| | | 4,598,899 | 07-08-1986 | Cooper | | | |
| | | 4,600,222 | 07-15-1986 | Appling | | | |
| | | 4,609,442 | 09-02-1986 | Tenhover et al. | | | |
| | | 4,611,790 | 09-16-1986 | Otsuka et al. | | | |
| | | 4,634,105 | 01-06-1987 | Withers et al. | | | |
| SK | | 4,640,666 | 02-03-1987 | Sodergard | | | |

FOREIGN PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|------------------|-------|---------------|----------------------------------|
| SK | | 4,651,806 | 03-24-1987 | Allen et al. | | | |
| | | 4,696,703 | 09-29-1987 | Henderson et al. | | | |
| | | 4,701,226 | 10-20-1987 | Henderson et al. | | | |
| | | 4,714,371 | 12-22-1987 | Cuse | | | |
| | | 4,717,540 | 01-05-1988 | McRae et al. | | | |
| | | 4,743,428 | 05-10-1988 | McRae et al. | | | |
| | | 4,747,583 | 05-31-1988 | Gordon et al. | | | |
| SK | | 4,770,701 | 09-13-1988 | Henderson et al. | | | |

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| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----|--------------------|------------|-------------------|-------|---------------|----------------------------------|
| SK | | 4,786,230 | 11-22-1988 | Thut | | | |
| | | 4,802,656 | 02-07-1989 | Hudault et al. | | | |
| | | 4,804,168 | 02-14-1989 | Otsuka et al. | | | |
| | | 4,810,314 | 03-07-1989 | Henderson et al. | | | |
| | | 4,834,573 | 05-30-1989 | Asano et al. | | | |
| | | 4,842,227 | 06-27-1989 | Harrington et al. | | | |
| | | 4,844,425 | 07-04-1989 | Piras et al. | | | |
| SK | | 4,851,296 | 07-25-1989 | Tenhover et al. | | | |

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|---------------------|-----|--------------------|------------|------------------|-------|---------------|----------------------------------|
| SK | | 4,859,413 | 08-22-1989 | Harris et al. | | | |
| | | 4,867,638 | 09-19-1989 | Handtmann et al. | | | |
| | | 4,884,786 | 12-05-1989 | Gillespie | | | |
| | | 4,898,367 | 02-06-1990 | Cooper | | | |
| | | 4,923,770 | 05-08-1990 | Grasselli et al. | | | |
| | | 4,930,986 | 06-05-1990 | Cooper | | | |
| | | 4,931,091 | 06-05-1990 | Waite et al. | | | |
| SK | | 4,940,214 | 07-10-1990 | Gillespie | | | |

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|---------------------|-----|--------------------|------------|------------------|-------|---------------|----------------------------------|
| SK | | 4,940,384 | 07-10-1990 | Amra et al. | | | |
| | | 4,954,167 | 09-04-1990 | Cooper | | | |
| | | 4,973,433 | 11-27-1990 | Gilbert et al. | | | |
| | | 4,989,736 | 02-05-1991 | Andersson et al. | | | |
| | | 5,006,232 | 04-09-1991 | Lidgitt et al. | | | |
| | | 5,028,211 | 07-02-1991 | Mordue et al. | | | |
| | | 5,049,841 | 09-17-1991 | Cooper et al. | | | |
| SK | | 506,572 | 10-10-1893 | Wagener | | | |

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EXAMINER

S. Kastler

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|---------------------|-----|--------------------|------------|--------------------|-------|---------------|----------------------------------|
| SIC | | 5,078,572 | 01-07-1992 | Amra et al. | | | |
| | | 5,088,893 | 12-18-1992 | Gilbert et al. | | | |
| | | 5,092,821 | 03-03-1992 | Gilbert et al. | | | |
| | | 5,098,134 | 03-24-1992 | Monckton | | | |
| | | 5,099,554 | 03-31-1992 | Cooper | | | |
| | | 5,131,632 | 07-21-1992 | Olson | | | |
| | | 5,143,357 | 09-01-1992 | Gilbert et al. | | | |
| SIC | | 5,145,322 | 09-08-1992 | Senior, Jr. et al. | | | |

FOREIGN PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 5,152,631 | 10-06-1992 | Bauer | | | |
| | | 5,158,440 | 10-27-1992 | Cooper et al. | | | |
| | | 5,162,858 | 11-10-1992 | Shoji et al. | | | |
| | | 5,165,858 | 11-24-1992 | Gilbert et al. | | | |
| | | 5,172,458 | 12-22-1992 | Cooper | | | |
| | | 5,177,304 | 01-05-1993 | Nagel | | | |
| | | 5,191,154 | 03-02-1993 | Nagel | | | |
| SK | | 5,192,193 | 03-09-1993 | Cooper et al. | | | |

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 5,202,100 | 04-13-1993 | Nagel et al. | | | |
| | | 5,203,681 | 04-20-1993 | Cooper | | | |
| | | 5,209,641 | 05-11-1993 | Hoglund et al. | | | |
| | | 5,215,448 | 06-01-1993 | Cooper | | | |
| | | 5,268,020 | 12-07-1993 | Claxton | | | |
| | | 5,286,163 | 02-15-1994 | Amra et al. | | | |
| | | 5,298,233 | 03-29-1994 | Nagel | | | |
| SK | | 5,301,620 | 04-12-1994 | Nagel et al. | | | |

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| SK | | 5,308,045 | 05-03-1994 | Cooper | | | |
| | | 5,310,412 | 05-10-1994 | Gilbert et al. | | | |
| | | 5,318,360 | 06-07-1994 | Langer et al. | | | |
| | | 5,322,547 | 06-21-1994 | Nagel et al. | | | |
| | | 5,324,341 | 06-28-1994 | Nagel et al. | | | |
| | | 5,330,328 | 07-19-1994 | Cooper | | | |
| | | 5,354,940 | 10-11-1994 | Nagel | | | |
| SK | | 5,358,549 | 10-25-1994 | Nagel et al. | | | |

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| SK | | 5,358,697 | 10-25-1994 | Nagel | | | |
| | | 5,364,078 | 11-15-1994 | Pelton | | | |
| | | 5,369,063 | 11-29-1994 | Gee et al. | | | |
| | | 5,383,651 | 01-24-1995 | Blasen et al. | | | |
| | | 5,388,633 | 02-14-1995 | Mercer II et al. | | | |
| | | 5,395,405 | 03-07-1995 | Nagel et al. | | | |
| | | 5,399,074 | 03-21-1995 | Nose et al. | | | |
| SK | | 5,407,294 | 04-18-1995 | Giannini | | | |

FOREIGN PATENT DOCUMENTS

| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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| EXAMINER S. Kastler | DATE CONSIDERED 3/06 |
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| INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) | | APPLICANT Paul V. Cooper | |
| | | FILING DATE July 14, 2003 | GROUP 1742 |
| | | COUPLINGS FOR MOLTEN METAL DEVICES | |

U. S. PATENT DOCUMENTS

| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----|--------------------|------------|------------------|-------|---------------|----------------------------------|
| SK | | 5,425,410 | 06-20-1995 | Reynolds | | | |
| | | 5,431,551 | 07-11-1995 | Aquino et al. | | | |
| | | 5,435,982 | 07-25-1995 | Wilkinson | | | |
| | | 5,436,210 | 07-25-1995 | Wilkinson et al. | | | |
| | | 5,443,572 | 08-22-1995 | Wilkinson et al. | | | |
| | | 5,454,423 | 10-03-1995 | Tsuchida et al. | | | |
| | | 5,468,280 | 11-21-1995 | Areaux | | | |
| SC | | 5,470,201 | 11-28-1995 | Gilbert et al. | | | |

FOREIGN PATENT DOCUMENTS

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EXAMINER

S. Kastler

DATE CONSIDERED

3/06

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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 5,484,265 | 01-16-1996 | Horvath et al. | | | |
| | | 5,489,734 | 02-06-1996 | Nagel et al. | | | |
| | | 5,491,279 | 02-13-1996 | Robert et al. | | | |
| | | 5,495,746 | 03-05-1996 | Sigworth | | | |
| | | 5,505,143 | 04-09-1996 | Nagel | | | |
| | | 5,509,791 | 04-23-1996 | Turner | | | |
| | | 5,537,940 | 07-23-1996 | Nagel et al. | | | |
| SK | | 5,543,558 | 08-06-1996 | Nagel et al. | | | |

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EXAMINER

S. Kastner

DATE CONSIDERED

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| U. S. PATENT DOCUMENTS | | | | | | | |
| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
| SIC | | 5,555,822 | 09-17-1996 | Loewen et al. | | | |
| | | 5,558,501 | 09-24-1996 | Wang et al. | | | |
| | | 5,558,505 | 08-24-1996 | Mordue et al. | | | |
| | | 5,571,486 | 11-05-1996 | Robert et al. | | | |
| | | 5,585,532 | 12-17-1996 | Nagel | | | |
| | | 5,586,863 | 12-24-1996 | Gilbert et al. | | | |
| | | 5,597,289 | 01-28-1997 | Thut | | | |
| SIC | | 5,613,245 | 03-18-1997 | Robert | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | | |
| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION YES NO |
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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 5,622,481 | 04-22-1997 | Thut | | | |
| | | 5,629,464 | 05-13-1997 | Bach et al. | | | |
| | | 5,634,770 | 06-03-1997 | Gilbert et al. | | | |
| | | 5,640,706 | 06-17-1997 | Nagel et al. | | | |
| | | 5,640,707 | 06-17-1997 | Nagel et al. | | | |
| | | 5,640,709 | 06-17-1997 | Nagel et al. | | | |
| | | 5,655,849 | 08-12-1997 | McEwan et al. | | | |
| SK | | 5,662,725 | 09-02-1997 | Cooper | | | |

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| U. S. PATENT DOCUMENTS | | | | | | | |
| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
| SK | | 5,676,520 | 10-14-1997 | Thut | | | |
| | | 5,678,244 | 10-14-1997 | Shaw et al. | | | |
| | | 5,678,807 | 10-21-1997 | Cooper | | | |
| | | 5,679,132 | 10-21-1997 | Rauenzahn et al. | | | |
| | | 5,685,701 | 11-11-1997 | Chandler et al. | | | |
| | | 5,690,888 | 11-25-1997 | Robert | | | |
| | | 5,695,732 | 09-09-1997 | Sparks et al. | | | |
| SK | | 5,716,195 | 02-10-1998 | Thut | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | | |
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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|---------------------|-------|---------------|----------------------------------|
| SK | | 5,717,149 | 02-10-1998 | Nagel et al. | | | |
| | | 5,718,416 | 02-17-1998 | Flisakowski et al. | | | |
| | | 5,735,668 | 04-07-1998 | Klien | | | |
| | | 5,735,935 | 04-07-1998 | Areaux | | | |
| | | 5,741,422 | 04-21-1998 | Eichenmiller et al. | | | |
| | | 5,744,117 | 04-28-1998 | Wilkinson et al. | | | |
| | | 5,745,861 | 04-28-1998 | Bell et al. | | | |
| SK | | 5,755,847 | 05-26-1998 | Quayle | | | |

FOREIGN PATENT DOCUMENTS

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U. S. PATENT DOCUMENTS

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| SK | | 5,772,324 | 06-30-1998 | Falk | | | |
| | | 5,776,420 | 07-07-1998 | Nagel | | | |
| | | 5,785,494 | 07-28-1998 | Vild et al. | | | |
| | | 5,805,067 | 09-08-1989 | Bradley et al. | | | |
| | | 5,810,311 | 09-22-1998 | Davison et al. | | | |
| | | 5,842,832 | 12-01-1998 | Thut | | | |
| | | 585,188 | 06-29-1897 | Davis | | | |
| SK | | 5,858,059 | 01-12-1999 | Abramovich et al. | | | |

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|---------------------|-----|--------------------|------------|-------------------|-------|---------------|----------------------------------|
| S.K. | | 5,864,316 | 01-26-1999 | Bradley et al. | | | |
| | | 5,866,095 | 02-02-1999 | McGeever et al. | | | |
| | | 5,875,385 | 02-23-1999 | Stephenson et al. | | | |
| | | 5,935,528 | 08-10-1999 | Stephenson et al. | | | |
| | | 5,944,496 | 08-31-1999 | Cooper | | | |
| | | 5,947,705 | 09-07-1999 | Mordue et al. | | | |
| | | 5,949,369 | 09-07-1999 | Bradley et al. | | | |
| S.K. | | 5,951,243 | 09-14-1999 | Cooper | | | |

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| SK | | 5,993,726 | 11-30-1999 | Huang | | | |
| | | 5,993,728 | 11-30-1999 | Vild | | | |
| | | 5,995,041 | 11-30-1999 | Bradley et al. | | | |
| | | 6,024,286 | 02-15-2000 | Bradley et al. | | | |
| | | 6,027,685 | 02-22-2000 | Cooper | | | |
| | | 6,036,745 | 03-14-2000 | Gilbert et al. | | | |
| | | 6,074,455 | 06-13-2000 | van Linden et al. | | | |
| SK | | 6,093,000 | 07-25-2000 | Cooper | | | |

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|---------------------|-----|--------------------|------------|---------------------|-------|---------------|----------------------------------|
| SK | | 6,096,109 | 08-01-2000 | Nagel et al. | | | |
| | | 6,019,576 | 02-01-2000 | Thut | | | |
| | | 6,113,154 | 09-05-2000 | Thut | | | |
| | | 6,123,523 | 09-26-2000 | Cooper | | | |
| | | 6,152,691 | 11-28-2000 | Thut | | | |
| | | 6,187,096 | 02-13-2001 | Thut | | | |
| | | 6,217,823 | 04-17-2001 | Vild et al. | | | |
| SK | | 6,231,639 | 05-15-2001 | Eichenmiller et al. | | | |

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|---------------------|-----|--------------------|------------|-----------------|-------|---------------|----------------------------------|
| SK | | 6,243,366 | 06-05-2001 | Bradley et al. | | | |
| | | 6,250,881 | 06-26-2001 | Mordue et al. | | | |
| | | 6,254,340 | 07-03-2001 | Vild et al. | | | |
| | | 6,270,717 | 08-07-2001 | Tremblay et al. | | | |
| | | 6,280,157 | 08-28-2001 | Cooper | | | |
| | | 6,298,759 | 09-25-2001 | Thut | | | |
| | | 6,303,074 | 10-16-2001 | Cooper | | | |
| SK | | 6,345,964 | 02-12-2002 | Cooper | | | |

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| | COUPLINGS FOR MOLTEN METAL DEVICES | |

U. S. PATENT DOCUMENTS

| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----|--------------------|------------|---------------|-------|---------------|----------------------------------|
| SK | | 6,358,467 | 03-19-2002 | Mordue | | | |
| | | 6,398,525 | 06-04-2002 | Cooper | | | |
| | | 6,439,860 | 08-27-2002 | Greer | | | |
| | | 6,451,247 | 09-17-2002 | Mordue et al. | | | |
| | | 6,457,950 | 10-01-2002 | Cooper et al. | | | |
| | | 6,464,458 | 10-15-2002 | Vild et al. | | | |
| | | 6,495,948 | 12-17-2002 | Garrett, III | | | |
| SK | | 6,497,559 | 12-24-2002 | Grant | | | |

FOREIGN PATENT DOCUMENTS

| | REF | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION | |
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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EXAMINER

S. Kastler

DATE CONSIDERED

3/06

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| | | | |
|---|--|------------------------------------|-------------------------------|
| Form PTO-1449 (REV. 8-83) | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO. 23438.00041 | APPLICATION NO. 10/620,318 |
| INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) | | APPLICANT Paul V. Cooper | |
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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| S.K. | | 6,524,066 | 02-25-2003 | Thut | | | |
| | | 6,533,535 | 03-18-2003 | Thut | | | |
| | | 6,551,060 | 04-22-2003 | Mordue et al. | | | |
| | | 6,648,026 | 11-18-2003 | Look et al. | | | |
| | | 6,679,936 | 01-20-2004 | Quackenbush | | | |
| | | 6,689,310 | 02-10-2004 | Cooper | | | |
| | | 6,695,510 | 02-24-2004 | Look et al. | | | |
| S.K. | | 6,709,234 | 03-23-2004 | Gilbert et al. | | | |

FOREIGN PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 6,716,147 | 04-06-2004 | Hinkle et al. | | | |
| | | 6,723,276 | 04-20-2004 | Cooper | | | |
| | | 6,805,834 | 10-19-2004 | Thut | | | |
| | | 6,843,640 | 01-18-2005 | Mordue et al. | | | |
| | | 6,848,497 | 02-01-2005 | Sale et al. | | | |
| | | 6,869,271 | 05-24-2005 | Uchida et al. | | | |
| | | 6,869,564 | 03-22-2005 | Gilbert et al. | | | |
| AL | | 6,881,030 | 04-19-2005 | Thut | | | |

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EXAMINER

S. Kattler

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U. S. PATENT DOCUMENTS

| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SL | | 6,887,424 | 05-03-2005 | Ohno et al. | | | |
| | | 6,887,425 | 05-03-2005 | Mordue et al. | | | |
| | | 898,499 | 09-15-1908 | O'Donnell | | | |
| | | 20010000465 | 04-26-2001 | Thut | | | |
| | | 20010012758 | 08-09-2001 | Bradley et al. | | | |
| | | 20020041788 | 04-11-2002 | Look et al. | | | |
| | | 20020102159 | 08-01-2002 | Thut | | | |
| SL | | 20020146313 | 10-10-2002 | Thut | | | |

FOREIGN PATENT DOCUMENTS

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| EXAMINER S. Kastner | DATE CONSIDERED 3/06 |
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| | | FILING DATE July 14, 2003 | GROUP 1742 |
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U. S. PATENT DOCUMENTS

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|---------------------|-----|--------------------|------------|---------------|-------|---------------|----------------------------------|
| SK | | 20020187947 | 12-12-2002 | Jarai et al. | | | |
| | | 20030059302 | 03-27-2003 | Mordue et al. | | | |
| | | 20030075844 | 04-24-2003 | Mordue et al. | | | |
| | | 20030151176 | 08-14-2003 | Ohno et al. | | | |
| | | 20030185679 | 10-02-2003 | Mordue et al. | | | |
| | | 20040007284 | 01-15-2004 | Look et al. | | | |
| | | 20040022632 | 02-05-2004 | Thut | | | |
| SK | | 20040056395 | 03-25-2004 | Thut | | | |

FOREIGN PATENT DOCUMENTS

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EXAMINER:

S. Kaster

DATE CONSIDERED

3/06

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|---------------------|-----|--------------------|------------|----------------|-------|---------------|----------------------------------|
| SK | | 20040076533 | 04-22-2004 | Cooper | | | |
| | | 20040084172 | 05-06-2004 | Vincent et al. | | | |
| | | 20040115079 | 06-17-2004 | Cooper | | | |
| | | 20040199435 | 10-07-2004 | Abrams et al. | | | |
| | | 20040123970 | 07-01-2004 | Neff | | | |
| | | 20040215204 | 10-28-2004 | Davison et al. | | | |
| | | 20040262825 | 12-30-2004 | Cooper | | | |
| SK | | 20050013713 | 01-20-2005 | Cooper | | | |

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EXAMINER

S. Kasher

DATE CONSIDERED

3/06

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| U. S. PATENT DOCUMENTS | | | | | | | |
| EXAMINER INITIAL | REF | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
| SK | | 20050013714 | 01-20-2005 | Cooper | | | |
| | | 20050013715 | 01-20-2005 | Cooper | | | |
| | | 20050053499 | 03-10-2005 | Cooper | | | |
| | | 20050077730 | 04-14-2005 | Thut | | | |
| | | 20050081607 | 04-21-2005 | Patel et al. | | | |
| SK | | 20050116398 | 06-02-2005 | Tremblay | | | |
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